REFLECTIONS

On Freedom, Intentionality and Physical Decoherence

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The freedom of the "quantum self" resides in intentionality, in the "so that" that guides both objects and its own existence. This implies that freedom is not just a metaphysical abstraction, but an ontological reality grounded in the ability to assign finalities to the elements of the world, including the body itself and the processes that constitute it, such as quantum decoherence.

In the quantum context, decoherence is the mechanism by which quantum systems lose their superposition properties when interacting with the environment, assuming a more defined state, a "body" in the classical world. From this point of view, the "quantum self" has the freedom to shape the meaning of its relationship with the environment. It transcends simple submission to predefined states, inserting intentionality by determining how the elements of its existence manifest and interact.

This freedom is fundamentally creative, as it allows the "quantum self" to choose the directions in which it will materialize in the classical world, not only as a result of physical laws, but as an expression of a higher purpose. Thus, the relationship with one's own body and the surrounding objects is mediated by this teleological perspective, the "so that", which gives meaning and orientation to existence.

This idea also connects the freedom of the "quantum self" with the responsibility of choice, as the "what for" carries ethical and ontological implications. The attribution of purposes requires awareness of the consequences of these choices, both at the individual and collective levels, revealing that freedom is not merely potential, but a dynamic force that requires conscious action.

Intentionality in the Philosophical Context

Intentionality, in the phenomenological tradition of Brentano and Husserl, is defined as the fundamental characteristic of consciousness: all consciousness is consciousness of something. This directional structure of the mind connects the subject to objects in the world, giving them meaning. Applied to the "quantum self", intentionality can be understood as the ability to direct quantum states, physical bodies, and objects in the classical world for specific purposes.

In the "quantum self", intentionality transcends the mere act of perception and is concretized in practice. The use of objects, including the body, is an action that translates intention into reality. Thus, each intentional act is a movement of the "quantum self" from a state of potentiality (superposition) to a state of realization (collapse of the wave function).

Quantum Foundations of Freedom and Intentionality

In the quantum context, physical decoherence is the process by which a quantum system interacts with the environment, losing its phase coherence and,

consequently, its ability to exist in superposition. This collapse into a classical state can be interpreted as the materialization of a choice—the concrete manifestation of one possibility among many.

The "quantum self" can be seen as an intentional agent that utilizes decoherence as a means to project its intentions onto the world. The freedom of the "quantum self" lies in determining **which potentials are realized**. Each choice is a manifestation of a specific "why", which can be multiple and depend on the complexity of the intention.

For example, when lifting a stone, intentionality can vary:

- **Physical goal**: Use the stone as a tool.
- **Symbolic objective**: To carry the stone as an act of protest or art.
- **Transcendental objective**: To associate the stone with a spiritual ritual.

This multiplicity demonstrates that finality is not intrinsic to the object, but projected by the intention of the "quantum self."

The Body as Object and Instrument

The body, in the context of the "quantum self," is both a physical object subject to the laws of decoherence and an intentional instrument. It serves as the interface between the "quantum self" and the classical world, materializing purposes. When the body is used for a purpose, it becomes a vector of practiced intentionality.

For instance:

- **Body in motion**: A dancer uses his body to create art. Here, the body is the means by which an aesthetic intention is realized.
- **Body in function**: A worker uses his body to build. Intentionality is in the final product of the construction.

These actions reflect a duality: the body is both quantum (at the subatomic level) and classical (at the macroscopic level).

Multiplicity of Purposes and Freedom

Each "quantum self" can assign multiple purposes to the same object or action. This multiplicity reflects the freedom inherent in the quantum system, where possibilities coexist until the moment of realization. The choice of which purpose will be pursued is an expression of freedom and, at the same time, of responsibility.

Ethical and Ontological Connections

The ability to assign multiple purposes to objects and the body carries profound ethical implications. The intentionality practiced is not neutral; it transforms the world. When the "quantum self" chooses a purpose, it alters the conditions of existence of other systems, shaping the environment and relationships. Thus, the freedom of the "quantum self" must be exercised with an ethical awareness of its repercussions.

Conclusion: Intentional Action as a Manifestation of Freedom

Practiced intentionality is the act by which the "quantum self" transforms potentiality into reality. Using an object — including the body — to achieve a purpose is an act that manifests freedom and defines the relationship between the quantum and the classical. This relationship, mediated by decoherence, is not passive, but active, as it implies choices and direction of purposes.

The "quantum self", therefore, is a creative agent, whose power lies in the ability to use decoherence to shape the world, attributing meaning to it. This process is not only a physical achievement, but also an ontological and ethical expression, where freedom finds its highest expression in the responsibility for the "so that".